

Amendments to the Claims: This listing of claims will replace all prior versions, and listings, of claims in the application

1. (Withdrawn) A method for detecting a plurality of heart sounds in an auscultatory process comprising the steps of: providing a predetermined protocol corresponding with a plurality of recording locations on a patient; instructing a user to follow the predetermined protocol for recording the plurality of heart sounds at the plurality of recording locations using at least one of a voice guided protocol and a graphical user interface; and detecting and recording the heart sounds according to the predetermined protocol.
2. (Withdrawn) The method according to claim 1 wherein the step of detecting and recording the heart sounds includes detecting the plurality of heart sounds using a noninvasive passive acoustic sensor to detect heart sounds from well-defined and standard positions on a chest surface.
3. (Withdrawn) The method according to claim 1 further comprising the step of displaying the recorded heart sounds in a graphical manner.
4. (Withdrawn) The method according to claim 1 further comprising the step of automatically analyzing the recorded heart sounds to determine auscultatory findings.
5. (Withdrawn) The method according to claim 4 further comprising the step of displaying a compilation of results of the analyzed heart sounds in a graphical manner.
6. (Withdrawn) The method according to claim 5 wherein the step of displaying the compilation of results further comprises the step of textually describing the determined auscultatory findings.
7. (Withdrawn) The method according to claim 6 wherein the auscultatory findings are described in terms of standard clinical auscultatory findings used by physicians to make diagnostic and referral decisions.
8. (Withdrawn) The method according to claim 5 further comprising analyzing the heart sounds for a presence of murmurs.

9. (Withdrawn) The method according to claim 1 further wherein the step of detecting and recording the heart sounds further includes prompting the user to re-record one of the plurality of heart sounds when the one heart sound is determined to include an error.

10. (Withdrawn) The method according to claim 1 further comprising the step of displaying a prompt to allow a user to override the predetermined protocol.

11. (Withdrawn) A computer readable medium adapted to instruct a general purpose computer to detect a plurality of heart sounds in an auscultatory process, the method for comprising the steps of: providing a predetermined protocol corresponding with a plurality of recording locations on a patient; instructing a user to follow the predetermined protocol for recording the plurality of heart sounds at the plurality of recording locations using at least one of a voice guided protocol and a graphical user interface; and detecting and recording the heart sounds according to the predetermined protocol.

12. (Currently Amended) An auscultatory diagnostic decision support system comprising: a cardiac acoustic sensor to produce a heart sound signal; a heart sound analysis device adapted to receive and analyze the heart sound signal; and a display device including a graphical user interface (GUI) to guide a user through a predetermined protocol for multiple recording locations,

wherein the GUI displays multiple waveforms corresponding to heart sound signals for the respective multiple recording locations in a manner such that the multiple waveforms can be visually correlated.

13. (Original) The apparatus according to claim 12 further comprising means for transmitting the heart sound signal to the heart sound analysis device by at least one of a wire, an infrared signal, and a wireless signal.

14. (Original) The apparatus according to claim 12 wherein the GUI includes at least one of: a pull-down menu having a plurality operating languages for selecting an operating language of the auscultatory diagnostic decision support system; a pull-down menu having a plurality of auscultatory protocols for selecting the predetermined auscultatory

protocol; and a pull-down menu having a plurality of recording site designations for selecting a recording site designation of the auscultatory diagnostic decision support system.

15. (Original) The apparatus according to claim 12 further comprising an earpiece wherein the GUI includes an re-record option to allow a user to interrupt the predetermined protocol and have the heart sound analysis device receive a second heart sound signal.

16. (Original) The apparatus according to claim 12 wherein the heart sound analysis device includes at least one of: a general purpose computer; special purpose circuitry; and an application specific integrated circuit.

17. (Original) The apparatus according to claim 12 wherein the GUI includes a visual representation of an anterior thorax to guide the user and a plurality of positional markers to pinpoint desired placements of the cardiac acoustic sensor on the anterior thorax.

18. (Currently Amended) The apparatus according to claim 12 further comprising; a speaker coupled to the display device; and at least one of a pre-recorded voice track and text-to-speech software to generate audio signals; wherein the audio signals are transmitted by the by the speaker as a series of audio prompts to guide the user through the predetermined auscultatory protocol.

19. (Original) The apparatus according to claim 12 wherein the cardiac acoustic sensor is an electronic stethoscope.

20. (Original) The apparatus according to claim 19 further comprising; at least one of a pre-recorded voice track and text-to-speech software to generate audio signals; wherein the audio signals are transmitted by an earpiece of the electronic stethoscope as a series of audio prompts to guide the user through the predetermined auscultatory protocol.

21. (Withdrawn) A user interface for an auscultatory diagnostic decision support system comprising: a graphical user interface (GUI) to guide a user of the auscultatory diagnostic decision support system through a predetermined auscultatory protocol including; a visual representation of a body portion of a patient; a plurality of positional markers to pinpoint a plurality of auscultatory measurement locations on the body portion; and a visual

presentation of a measured acoustic signal corresponding to each auscultatory measurement location; and a speaker to provide a voice guided protocol including a series of audio prompts to guide the user through the predetermined auscultatory protocol.

22. (Withdrawn) The interface according to claim 21 wherein the speaker is at least one of: an earpiece of an electronic stethoscope; and a speaker of a general purpose computer used to display the GUI.

23. (Withdrawn) The interface according to claim 21 wherein the series of audio prompts identify the plurality of auscultatory measurement locations in an order representing the predetermined auscultatory protocol.

24. (Withdrawn) The interface according to claim 21 wherein the series of audio prompts include at least one of: a posture prompt to identify a change in posture corresponding to at least one of the plurality of auscultatory measurement locations; a completion prompt to identify completion of the predetermined auscultatory protocol; and an auscultatory maneuver prompt to identify a dynamic auscultatory maneuver corresponding to at least one of the plurality of auscultatory measurement locations.

25. (Withdrawn) The interface according to claim 21 wherein the body portion of the patient included in the GUI is at least one of: an anterior thorax; a posterior thorax; an anterior abdomen; and a posterior abdomen.

26. (Withdrawn) A method for detecting a plurality of bodily sounds in an auscultatory process comprising the steps of: providing a predetermined protocol corresponding with a plurality of recording locations on a patient; instructing a user to follow the predetermined protocol for recording the plurality of bodily sounds at the plurality of recording locations using at least one of a voice guided protocol and a graphical user interface; and detecting and recording the bodily sounds according to the predetermined protocol.

27. (Withdrawn) The method of claim 26 wherein the plurality of bodily sounds include at least one of heart sounds, lung sounds, and gastrointestinal sounds.

28. (Withdrawn) The method of claim 26 further comprising the step of analyzing the recorded bodily sounds to determine auscultatory findings.

29. (Withdrawn) A computer readable medium adapted to instruct a general purpose computer to detect a plurality of bodily sounds in an auscultatory process, the method for comprising the steps of: providing a predetermined protocol corresponding with a plurality of recording locations on a patient; instructing a user to follow the predetermined protocol for recording a plurality of bodily sounds at a plurality of recording locations using at least one of a voice guided protocol and a graphical user interface; and detecting and recording the bodily sounds according to the predetermined protocol.

30. (Currently Amended) An auscultatory diagnostic decision support system comprising: an acoustic sensor configured to produce a bodily sound signal; a bodily sound analysis device adapted to receive and analyze the bodily sound signal; and a display device including a graphical user interface (GUI) to guide a user through a predetermined protocol for multiple recording locations to obtain a respective sequence of bodily sound signals for use by the bodily sound analysis device,

wherein the GUI displays multiple waveforms corresponding to the respective sequence of bodily sound signals in a manner such that the multiple waveforms can be visually correlated.

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Amendments to the Drawings:

The attached drawings are formal drawings to replace the previously submitted informal drawings.

Attachment